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Background

On Nov. 13, 2018, City Council adopted Ordinance No. 4372 amending the Scottsdale Revised Code in sections pertaining to bicycles and related devices. The ordinance took effect on Dec. 13, 2018, and specifically regulates the parking and operation of bicycles, electric bicycles, motorized bicycles, motorized skateboards, motorized play vehicles, and electric scooters. In Old Town Scottsdale the most common of these devices are shared electric scooters. The ordinance defined where these devices could and could not be parked and operated. The City Manager's Office was asked to provide follow-up reports and suggestions for further regulation if necessary.

Staff have continued to meet with device sharing companies and coordinate through email throughout the year. Staff's outreach has included pre-launch communications, follow-up meetings to assess problem areas and violations, and communications regarding particular issues and events.

Staff has also worked with residents, merchants and property owners to address unique situations caused by device sharing companies. City transportation staff developed a map of restricted device areas and bicycle rack locations to aid companies in proper placement and operations of devices. These maps are available on the city's Open Data Portal:

- Bicycle rack locations: http://data.scottsdaleaz.gov/dataset/bike-rack-locations
- Restricted areas: http://data.scottsdaleaz.gov/dataset/restricted-bike-and-scooter-areas

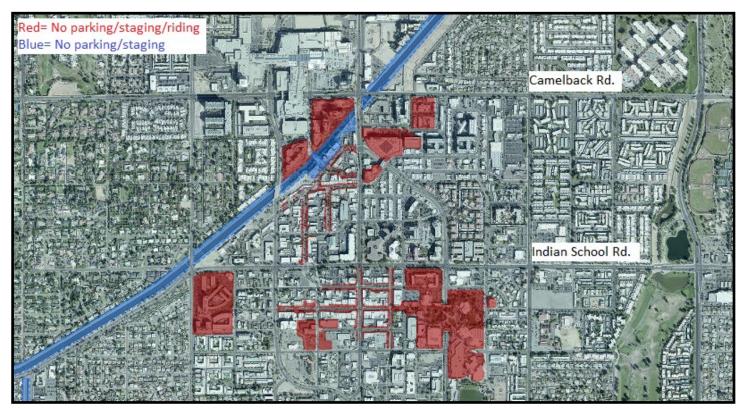


Image One: Restricted scooter use in Old Town Scottsdale

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Transportation staff originally created an inventory of bicycle parking in the downtown area in 2009. The data includes location, number of racks, capacity for bicycles, design style, whether it is private or public, and condition of each bike rack. As new bicycle parking is added in Old Town, it is added into the inventory record. In Dec. 2016 staff completed a gap analysis for bike parking to see where there is a additional need.

Currently there are 255 locations in Old Town with bicycle racks able to accommodate 2100 bicycles. Electric scooters and related devices can also park in these locations. The map of such locations is located below and to the left (Image Two).

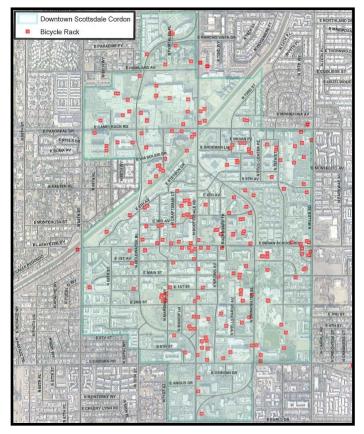


Image Two: Bicycle rack locations in Old Town Scottsdale

	Bird		May 2018		Ongoing	
	Lime		Nov. 2018	\rangle	Jan. 2020	
	Jump		Jan. 2019	\rangle	April 2019	
	Lyft		Feb. 2019	\rangle	Nov. 2019	
	Spin		Feb. 2019		Ongoing	
0	ld Town Rides		April 2019	\rangle	Ongoing	
	Wheels		Oct. 2019		Ongoing	
	Baus		Oct. 2019		Feb. 2020	
	Boost		Jan. 2020	\rangle	Ongoing	
	Razor	H	las been in and ou	t, plaı	nning formal launc	h

Image Three: Timeframes of mobility companies' involvement in the City of Scottsdale

This report serves as an update. With the City of Scottsdale having a full year of experience in regulating shared mobility devices, much more detailed and localized information is available than one year ago. After the information is presented several new regulatory suggestions are provided on pages fourteen and fifteen.

Above and to the right (Image Three), a timeframe of companies' arrivals into and departures from the Scottsdale scooter market is provided. This timeframe may be helpful for reference throughout the report.

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Current Activity

The majority of issues and concerns surrounding scooters are related to the parking of the devices. Below several examples of current parking practices are shown with explanations of the issues they can create. The Scottsdale Revised Code currently delineates where these devices cannot park. While several examples include currently illegal actions, some clarity and uniformity could be provided if the Scottsdale Revised Code instead explained where devices could be parked.



Image Four: Three scooters illegally parked on sidewalks along 75th Street. The parking of these devices could disrupt any person or group walking down the street, but would be especially problematic should somebody using a mobility device such as a wheelchair be attempting to navigate the area.

Image Five: Six scooters illegally parked within 200 feet of one another and in landscaping in Historic Old Town Scottsdale. Merchants in this area have voiced concerns over the impact scooters may have on the area's beauty. This is an example of unsightly parking which could also damage existing landscaping.



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Image Six: A scooter illegally parked in a handicapped parking space. This space needs to be reserved to provide handicapped individuals reasonable access to the building in the background of the picture.



Images Seven, Eight and Nine: In all three images above the scooters are parked neatly and orderly in bicycle racks. Bicycle racks provide a built out infrastructure of acceptable parking locations which include walkable routes to nearby destinations.

Image seven includes a bicycle rack at a bus stop on Indian School Road, locations such as this are ideal for intermodal transportation.

Image eight is located at a bicycle rack in the Entertainment District. These racks provide for orderly parking by multiple devices and are closer than the cars in the background to local attractions.

Image nine shows a bicycle rack placed at a multi-family housing unit which is tucked back into the building to keep pedestrian traffic routes clear.

Bicycle racks are purposefully placed in a way which accommodates and integrates with other methods of transportation.

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Public Feedback

Emails to Council and Mayor

The Mayor and City Council received 221 emails regarding scooters between Dec. 13, 2018 to Dec. 12, 2019. The 221 emails were sent by 37 individuals. In the accompanying chart (Image Ten) received emails are grouped by the month in which they were received.

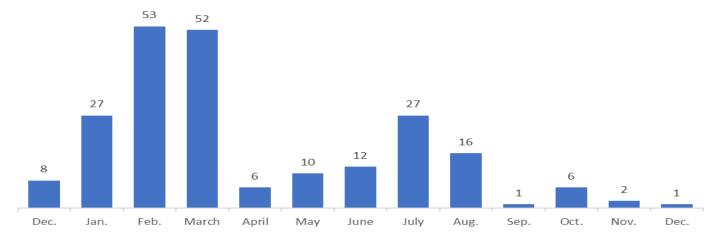


Image Ten: Email communications regarding scooters to Mayor and Council by month

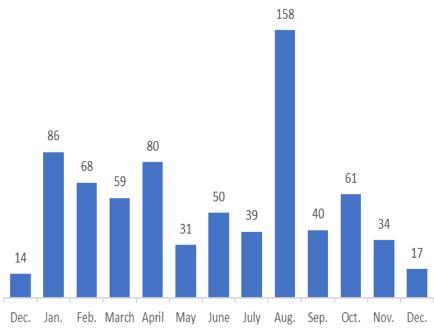
ScottsdaleEZ

The City of Scottsdale has an online mobile-optimized web application for individuals to report various issues to city staff, known as ScottsdaleEZ. This system received 737 reports pertaining to shared mobility devices between Dec. 13, 2018, and Dec. 12, 2019. The chart (Image Eleven) in this section separates those 737 reports by month. Continued complaints over the past year on ScottsdaleEZ indicate that despite education efforts and periodic enforcement,

noncompliance is

persistent.

Image Eleven: Monthly breakdown of scooter related ScottsdaleEZ reports



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Public Sentiment (Captured Through Social Media)

The "score" below (Image Twelve) represents frequency of conversations over time regarding scooters based on social media interactions occurring within the City of Scottsdale. Spikes in score represent increases in social media activity regarding scooters. Significant score increases coincide with either newsworthy events or posts made by "influencers." Social media data and analysis for this report has been produced using Zencity, an analytics tool which uses online communications to gauge public opinion.

SCORE OVER TIME

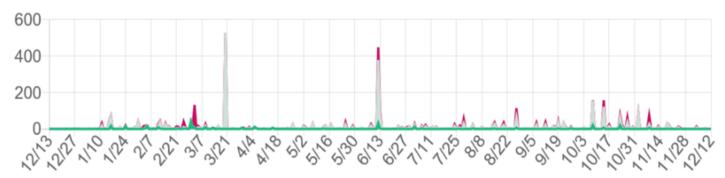


Image Twelve: Zencity social media "score" between Dec. 13 2018- Dec. 12, 2019

Zencity also provides an overview of the sentiment of online public conversation. As can be seen in the chart to the right (Image Thirteen), the majority (70 percent) of Scottsdale social media interactions pertaining to scooters has been neutral. Still, some (21 percent) social media interactions have been negative towards scooters and fewer (9 percent) have been positive.

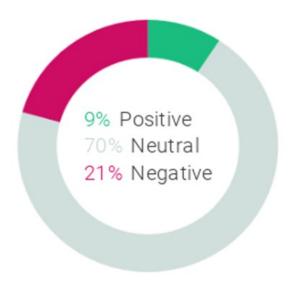


Image Thirteen: Zencity social media sentiment of scooters

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Impact to Public Safety

HonorHealth

HonorHealth provided a summary of trauma patients with scooter related injuries. 112 such injuries occurred and the information within the summary highlighted several trends. In 66 of the 112 incidents alcohol was involved, representing 58.9 percent of cases. Males made up the majority of patients, there were 70 males compared to 42 female patients. The average age of the injured was 24 years old, ranging from 14 years old to 66 years old. None of the individuals accounted for by HonorHealth were wearing a helmet at the time of their injury.

Fire and Emergency Services Response

When introducing new methods of transportation, concerns of public safety naturally follow. Safety enters the conversation regarding both the impact on public welfare and the cost that emergencies can bring to public services. From Dec. 13, 2018 to Dec. 12, 2019 the Scottsdale Fire Department responded to 138 scooter related emergency calls. Scooter related incidents accounted for 0.5 percent of all EMS (Emergency Medical Services) traffic in Scottsdale during that time.

Late night use of scooters, e-bikes and similar devices continues to be a safety concern as conditions are generally less safe in late night and early morning hours. The two charts below (Images Fourteen and Fifteen) represent the share of rides which occur between 11 p.m. and 6 a.m. and the share of scooter related emergencies occurring between 11 p.m. and 6 a.m.. Riders operating devices between 11 p.m. and 6 a.m. are more than twice as likely to be involved in an emergency incident as riders operating within the other 17 hours of the day.

One death occurred while an individual was riding an electric scooter in Scottsdale. The cause of death however was not related to the scooter usage.

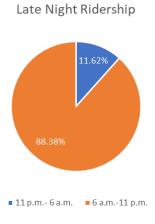


Image Fourteen: Portion of ridership using mobility devices at different times of day

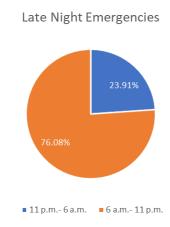


Image Fifteen: Portion of scooter related emergencies requiring response occurring at different times of day

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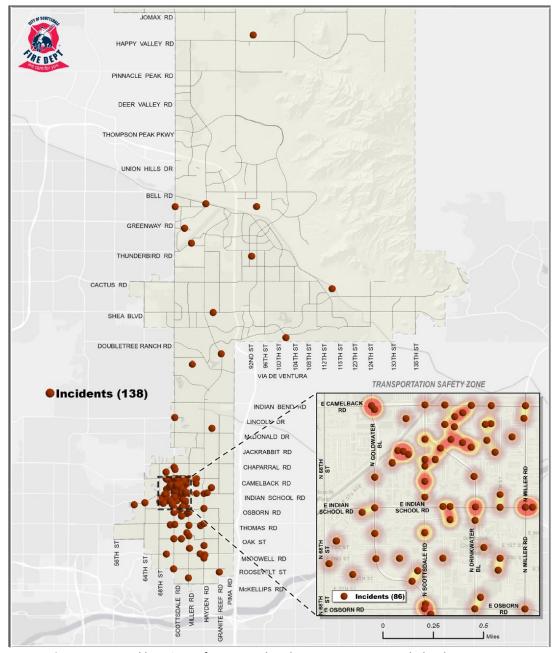


Image Sixteen: Mapped locations of scooter related emergencies responded to by EMS

EMS responses to scooter related incidents are not only able to be grouped by the time of day at which they occurred, but also by their location. Old Town Scottsdale is the area with the greatest concentration of scooter related emergencies. The city does have a Transportation Safety Zone which can be used as an overlay to frame and understand the imbalance of geographical locations.

The accompanying map (Image Sixteen) represents the location of the 138 scooter related emergencies which EMS responded to. 86 of the 138, or 62.3 percent occurred within the city's Transportation Safety Zone. The prevalence of scooter related emergencies within the more condensed area of the city is not surprising. However, the concentration of emergencies does illustrate a possible need to address these issues in a geographically focused manner.

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Police Response

The Scottsdale Police Department issued at least 246 citations related to scooters between Dec. 13, 2018 and Dec. 12, 2019. Roughly 90 percent (221) of those citations were for parking violations, the remaining citations were written for moving violations. Additionally, seven scooter related arrests were made. The accompanying chart (Image Seventeen) indicates the months in which citations were given with Dec. 2018 on the left and Dec. 2019 on the right. The summer surge in citations was caused by a directed enforcement effort by the Scottsdale Police Department.

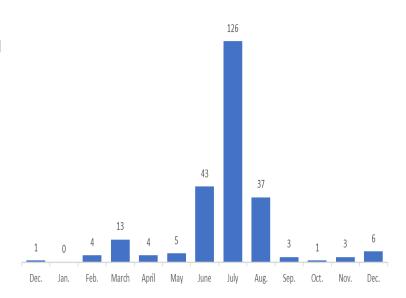


Image Seventeen: Scooter related citations by month (Dec. 2018-Dec. 2019)

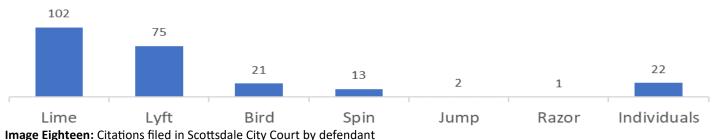
Prosecution and Litigation

Three notice of claims have been filed against the City of Scottsdale relating to electric scooter usage. The three events occurred on March 26, April 6 and May 5 of 2019. As of yet no lawsuits have been filed.

As of Dec. 13, 2019, 236 citations have been filed in the Scottsdale City Court, with four of those cases pending final action. Fines of \$40,147.60 had been assessed whereas \$26,404.80 had been collected. Assessed fines include all fines the City Court has ordered to be paid to the city and collected fines represent only the dollar amount actually collected as of Dec. 12, 2019. The chart below (Image Eighteen) represents the defendants in the various cases; in most (91 percent) cases scooter companies have been the defendant.

The chart does not indicate whether specific companies have higher rates of compliance or noncompliance. Multiple factors lead to varying citation totals including quantity of scooters in Scottsdale, length of time in the Scottsdale market and activity in Scottsdale during directed enforcement efforts by the Scottsdale Police Department.

Individual defendants have been cited for riding under the influence, reckless riding, failure to yield, speed greater than prudent and failure to obey traffic signals. Scooter companies have been cited for parking violations.



mage Lighteen. Citations filed in Scottsdale City Court by defendant

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Rider Data

The chart below (Image Nineteen) shows by month, various statistics for shared electric scooters, e-bikes and similar devices in Scottsdale in 2019. These statistics have been pulled from the City's mobility dashboard. Within Scottsdale in 2019 these devices provided 276,090 rides with the average ride lasting 13.57 minutes and covering a distance of 1.1 miles. The total miles ridden equals 304,336.18, equivalent to more than 55 round-trips to Portland, ME from Scottsdale. The total time spent on shared mobility devices in Scottsdale adds up to 62,451.69 hours, or 7.12 years.

Depending upon the method of data collection these figures can vary. A previous report cited data the companies had aggregated themselves. This report reflects live data released by scooter companies to the City of Scottsdale through the Information Technology Department. This data is expected to be more accurate than data previously reported, but is still unlikely to be exact because of some reporting difficulties.

	Total Rides	Ride Time (Min)	Total Time (Hours)	Ride Distance (Miles)	Total Miles
Jan.	31,973	11.05	5,888.36	1.22	39,007.06
Feb.	27,886	16.49	7,664.00	1.14	31,790.04
March	37,404	17.46	10,884.56	1.25	46,755.00
April	25,792	16.48	7,084.20	1.25	32,240.00
May	30,530	16.02	8,151.51	1.17	35,720.10
June	21,154	14.88	5,246.19	1.04	22,000.16
July	21,160	12.99	4,581.14	1.12	23,699.20
Aug.	20,626	13.08	4,496.47	1.06	21,863.56
Sep.	19,972	8.90	2,962.51	0.82	16,377.04
Oct.	18,369	8.25	2,525.74	0.86	15,797.34
Nov.	14,025	8.33	1,947.14	0.94	13,183.50
Dec.	7,199	8.50	1,019.86	0.82	5,903.18
Totals	276,090	13.57	62,451.69	1.10	304,336.18

Image Nineteen: Rider data on shared mobility devices in Scottsdale in 2019 (December data partial)

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Fiscal Considerations

While regulating a new industry and reacting to the community impacts of a new product there are fiscal considerations to be made. Many new costs have been created by the introduction of scooters to Scottsdale, but the financial impacts have not been entirely negative.

The largest cost to the city from scooters comes through a loss of right-of-way space, which is occasionally rented out for events at a cost of \$0.50 per day per square foot. To reasonably park or ride an electric scooter roughly eight square feet of space is used, four feet in length by two feet in width. These numbers extrapolate to \$4 per day per device in right-of-way usage, or \$146,000 per 100 devices per year. In 2019 the lightest monthly count of devices occurred in June at 1,560 devices. Many of these devices were likely in and out of the city as well as in and out of service. Still, the \$146,000 figure could still reliably be multiplied six or more times over to find the true cost of right-of-way usage.

The next largest cost which can be estimated is the cost of 138 EMS responses to scooter related incidents. The Fire Department figures each call for service reflects about \$1,070 in costs to the city. Responding to scooter related emergencies cost Scottsdale about \$147,660 over the course of the year.

Still, other costs continue to accrue. Between the ScottsdaleEZ system and emails to Mayor and Council, 958 total complaints or concerns were received by the city, each requiring valuable staff time for response. Between community tours upon market entry, occasional briefings and special events planning, the companies themselves have garnered countless hours of attention from all levels of staff. Furthermore, 246 citations had to be written and processed by Scottsdale police officers then handled by city attorneys and courts.

Although substantially smaller than the costs, notable fiscal contributions have been made by the presence of scooters in Scottsdale. By tallying the number of rides provided within the city and estimating scooter revenues it was estimated that scooters paid about \$24,5000 to the city in privilege tax. Fines of \$26,404.80 were also paid to the city through the court system resulting in a total fiscal contribution of roughly \$51,000.

Overall the financial contributions of scooters to the city have been minimal compared to the costs associated with regulating and governing the impacts of these devices. The collection of fines represent an example of incoming scooter-related revenue, but the costs associated with enforcing current code likely surpass that revenue boost. Bringing costs and revenues closer to balance would likely require greater compliance coupled with the implementation of fees upon the companies providing scooters and similar devices.

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Recommendations

Several changes to the Scottsdale Revised Code are recommended by staff. The catalysts for such changes are recurring problems, continued concerns among residents and changes to Arizona State Law. In the table below (Image Twenty) suggested changes can be found alongside the reasoning behind the change.

Change	Purpose
Require written parental/guardian permission for scooter riders under the age of 16	Decrease potential for injured youth riders and encourage parental/guardian involvement in safe practices
Prohibit electric scooter rental between 11:00 p.m. and 6:00 a.m.	Increase the likelihood of safe usage and reduce occurrences of intoxicated usage
Prohibit the riding of scooters, e-bikes and similar devices on sidewalks within the City Transportation Safety Zone	Reduce the likelihood of scooter/pedestrian collisions in high traffic areas of Old Town Scottsdale
Limit the parking of scooters, e-bikes and similar devices to bike racks and designated parking areas	Decrease blockage for pedestrians on sidewalks and reduce unsightly parking practices
Assess fees of \$50 for impoundment of scooters, e-bikes and similar devices or a \$25 fee for relocation	The city is currently taking on staffing and resource burdens for relocation, these fees share that burden and disincentivize illegal scooter parking
Restrict riding of devices within parks to roadways and multi-use paths	Maintain mobility to and through parks while also limiting pedestrian collision opportunities
Prohibit the riding of electric scooters and e-bikes within Pinnacle Peak Park	Protect the natural state of the park for the enjoyment of residents and visitors
Create a licensing structure for scooter companies	Further encourage compliance and share burden of costs of regulation

Image Twenty: Regulatory recommendations made by staff

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Licensing Fees

Staff recommends the Mayor and City Council institutes a tiered fee schedule to assist in covering the costs of needed additional infrastructure and enforcement of scooter and e-bike ordinances. The tiers of the fee schedule are represented in the chart below (Image Twentyone). The lowest tier of licensing would provide a mobility company the opportunity to deploy up to 100 devices and would come at a cost of \$10,000. The next tier would provide a mobility company the opportunity to deploy up to 500 devices at a cost of \$50,000. The top tier would provide a mobility company the opportunity to deploy up to 1,000 devices at a cost of \$100,000. Included in the aforementioned cost is an annual, non-refundable, \$1,000 application fee. The required fees work out to a total cost of \$100 per device per year.

Number of Devices Allowed	Licensing Fee	Application Fee	Total Cost
100	\$9,000	\$1,000	\$10,000
500	\$49,000	\$1,000	\$50,000
1000	\$99,000	\$1,000	\$100,000

Image Twenty-one: Licensing options for scooters, e-bikes and similar devices in Scottsdale

These recommended fees have been developed to recoup the cost of regulation for the City of Scottsdale without hindering the ability of companies to conduct business. The tiered licenses align the cost of a license to the portion of the burden which a company may place upon city staff and resources. The City of Scottsdale has taken on costs through meeting with company representatives, relocating devices, providing emergency services, responding to requests for information, conducting policy reviews and planning for scooter involvement in special events.

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Other Valley Cities

Chandler

On Dec. 12, 2019 Chandler City Council approved a one-year pilot program allowing shared electric scooters. The program includes a \$3,000 one-time application fee, user fees of \$0.10 per ride and penalties of \$50, \$250 and \$500 for first, second and third offenses.

The maximum speed of devices will be 15 miles per hour. Fleets are required to be made up of 75 to 150 devices, with the maximum increasing to 300 after three months. Parking restrictions include clustering prohibitions, designated parking areas downtown and requirements for orderly parking. Companies must collect or dock vehicles each night, share trip data with the city, correct improperly parked devices within two hours of notification, maintain insurance and accept indemnification language.

Gilbert

On March 7, 2019 Gilbert Town Council approved a pilot program with no set expiration allowing shared micro-mobility devices. Fees include a one-time \$2,500 program fee, user fees of \$0.10 per ride and various penalties of \$50, \$100, \$250, \$500 and \$1,000.

Riders are allowed on sidewalks, multi-use paths and roads with speed limits of 25 miles per hour or less. Scooters cannot be operated where signage prohibits operations or in designated bicycle lanes. Devices may not be parked in the middle of the sidewalk, on sidewalk ramps or against signs, bicycle racks are considered to be preferred parking locations. Companies are required to hold insurance, accept indemnification and share ride data with the city.

Mesa

Mesa City Council approved a one-year pilot program for electric scooters on Oct. 7, 2019. The only fees associated with the program are a \$400 company license fee and a \$50 impoundment fee when applicable.

Devices are not allowed to be ridden on sidewalks or in roadways with a speed limit greater than 30 miles per hour. Riding is also forbidden before the later of 7 a.m. and sunrise, and the earlier of 8 p.m. and sunset. No riders are allowed under the age of 14, riders between the ages of 14 and 18 must wear a helmet and have notarized parental/guardian permission. All other applicable traffic laws apply to scooters.

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Phoenix

Phoenix City Council approved a six-month pilot program which launched on Sep. 16, 2019. On Feb. 19, 2020 the pilot program was extended for another six months. Fee increases are set to be considered on or after March 18, 2020. New fees would include a \$500 application fee, a \$7,500 permit fee per six-month term, a \$0.25 per ride surcharge and a device relocation fee of \$100.

Devices are not to exceed 15 miles per hour and are restricted to a geofenced area in Downtown Phoenix. Riders must be 18 years old and possess a valid driver's license. Parking is restricted to designated areas.

Surprise

On Nov. 1, 2019 the City of Surprise launched a 180-day pilot program for electric scooters. The program limited the total device count across all companies to 100 devices.

In Surprise rider speed is limited to 12 miles per hour and riders must be over the age of 18. Sidewalk riding is only allowed along roads with higher speed limits, and sometimes that allowance is subject to a lack of bicycle lanes. Companies cannot have more than five parked together, or have any devices parked in places that block pedestrian traffic. Devices can be staged after 5 a.m. and must be picked up each night by 10 p.m.

Tempe

The Tempe City Council passed a scooter licensing ordinance on Jan. 10, 2019. Fees in Tempe include an annual application fee of \$7,888, a right of way use fee of \$1.06 per vehicle per day and a \$100 relocation fee.

Riders in Tempe must be at least 16 years old and wearing a helmet when under the age of 18. Scooters must be ridden with the flow of traffic, using a bicycle lane when one is provided. Riding on the street is required when the speed limit for automobile traffic is 25 miles per hour or less. When the speed limit exceeds 25 miles per hour and no bicycle lane is present sidewalk riding is allowed. Restaging of devices is required every 24 hours, with no more than ten devices parked within 150 feet of one another. 20% of devices must be placed south of Broadway Road.

Devices Banned

Several cities in the valley, such as Glendale and Peoria have banned electric scooters altogether.

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Staff Acknowledgements

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